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**A CUMULATIVE INDEX
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AERONAUTICAL
ENGINEERING**

A SPECIAL BIBLIOGRAPHY

JANUARY 1974

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

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SPECIAL NOTICE

The abstract sections of the monthly supplements of *Aeronautical Engineering* can be bound separately. Individual abstracts can be located readily by means of the page numbers given at each entry, e.g., p0319 N73-22980. To assist the user in binding Supplements SP-7037 (28) through SP-7037 (39), a title page is included in the back of this Cumulative Index.

**A CUMULATIVE INDEX
TO
AERONAUTICAL ENGINEERING
A Special Bibliography**

This Cumulative Index supersedes the indexes
contained in supplements SP-7037 (28) through
SP-7037 (39).



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OFFICE OF INDUSTRY AFFAIRS AND TECHNOLOGY UTILIZATION
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JANUARY 1974
Washington, D.C.

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INTRODUCTION

WHAT THIS CUMULATIVE INDEX IS

This publication is a cumulative index to the abstracts contained in NASA SP-7037 (28) through NASA SP-7037 (39) of *Aeronautical Engineering: A Special Bibliography*. NASA SP-7037 and its supplements have been compiled through the cooperative efforts of the American Institute of Aeronautics and Astronautics (AIAA) and the National Aeronautics and Space Administration (NASA).

Entries prepared by the two contributing organizations are identified as follows:

1. NASA entries by their STAR accession numbers (N73-10000 series).
2. AIAA entries by their IAA accession numbers (A73-10000 series).

HOW THIS CUMULATIVE INDEX IS ORGANIZED

This Cumulative Index includes a subject index, a personal author index, a corporate source index, a contract number index, and a report accession number index.

HOW TO USE THE SUBJECT INDEX

Two types of cross-references appear in the subject index:

1. Use (U) references indicate that the subject term is not "postable," i.e., not a valid term, and the following term or terms are used instead. For example:

AIRCRAFT PROTUBERANCES
U PROTUBERANCES
FLIGHT PERFORMANCE
U FLIGHT CHARACTERISTICS

2. Narrower Term (NT) references refer the user to more specific headings in the same subject area, under which additional material on the subject may be found.

For example:

FLOW RESISTANCE
NT AERODYNAMIC DRAG
NT FRICTION DRAG
NT SUPERSONIC DRAG

In addition, a searcher may use the notations of content in the index to narrow further his quest for particular items. This is because subject terms can readily include more than one class of document. For example:

AIRLINE OPERATIONS
All-weather operations, including
pilot role, instrument landing
systems and guidance aids.
Airport congestion as constraint on
air travel, considering runway
capacity and adjusted demand.

illustrates a case where two references on different topics are listed under the same subject term.

HOW TO USE THE PERSONAL AUTHOR INDEX

All personal authors used in the abstract-section citations in the individual Supplements appear in the index. Differences in transliteration schemes may require multiple searching of the index for variants of an author's name. For example:

EMELIANOV, M.D.
and
YEMELYANOV, M.D.

HOW TO USE THE CORPORATE SOURCE INDEX

The corporate source index entries are abridged versions of the corporate sources used in the abstract-section citations in the individual Supplements. The corporate source supplementary (organizational component) does not appear in the index. For example:

BOEING CO., SEATTLE, WASH. MILITARY AIRCRAFT SYSTEMS
DIV. (Corporate source at citation)

BOEING CO., SEATTLE, WASH. (Corporate source index entry)

HOW TO USE THE CONTRACT NUMBER INDEX

All contract numbers that are identified in the abstract-section citations in the individual Supplements appear in this index. Changes by agencies in the style in which contract numbers are presented may require multiple searching for variants. For example:

AF 33(615)-71-C-1758

F33615-71-C-1758

HOW TO USE THE REPORT/ACCESSION NUMBER INDEX

All report numbers that have been assigned by the corporate source, monitoring agency or cataloging activity appear in this index. Variations in initial cataloging may result in different report number series. For example:

TP-924

ONERA-TP-924

IDENTIFICATION OF DESIRED SUPPLEMENT

The abstract and descriptive cataloging for any accession number selected from the indexes may be found in the appropriate Supplement. The page-number range of each Supplement appears on the inside front cover of this index. Once the range of page numbers containing the selected accession number is located in the second column, the desired Supplement number will be found in the first column. For example:

Page 195 will be found in Supplement 32.

AVAILABILITY OF DOCUMENTS

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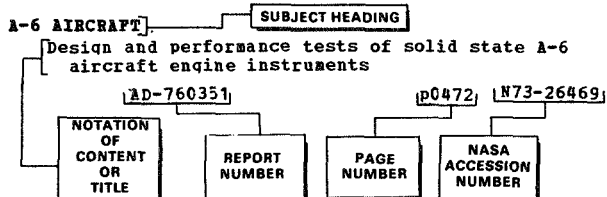
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The subject heading is a key to the subject content of the document. The Notation of Content (NOC), rather than the title of the document, is usually used to provide a more exact description of the subject matter. (AIAA occasionally uses the title in lieu of the NOC.) The report number helps to indicate the type of document cited (e.g., NASA report, translation, NASA contractor report). The page and accession numbers are located beneath and to the right of the Notation of Content, e.g., p0472 N73-26469 Under any one subject heading, the accession numbers are arranged in sequence with the IAA accession numbers appearing first.

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p0193 A73-23856
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- Subsonic compressible airfoil cascade flow calculations by series, iterative, matrix and streamline curvature methods, discussing transonic and supersonic cases
[ASME PAPER 73-GT-9] p0372 A73-33487
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[AIAA PAPER 73-780] p0499 A73-37451
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p0565 A73-40244
- Closed-form lift and moment for Osborne's unsteady thin-airfoil theory.
p0566 A73-40442
- Monograph - Quasi homogeneous approximations for the calculation of wings with curved subsonic leading edges flying at supersonic speeds.
p0582 A73-42675
- Navier-Stokes equation formulation in parabolic coordinates for flow in trailing vortex, obtaining asymptotic expansions for stream function and angular momentum
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p0146 A73-19952
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- An approximate method for the calculation of the velocities induced by a wing oscillating in subsonic flow
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- On the radiation from an aerodynamic acoustic dipole source
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- Interpretation of hot-wire anemometer readings in a flow with velocity, pressure and temperature fluctuations.
p0573 A73-41317
- Calculation of the maximum attainable efficiency of a moving compressor blade cascade
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- Recirculation flow velocities and temperatures of VTOL lift engines [DLR-FB-72-50]
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p0066 N73-12016
- Procedure for generating uniform flow at varying velocities in wind tunnel test section [NASA-CASE-ARC-10710-1]
p0485 N73-27175
- FLOW VISUALIZATION**
- The use of aerosols for the visualization of flow phenomena.
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- Hydrodynamic visualization technique application to unsteady flow patterns around models and analysis of boundary layers, separation and wakes
p0198 A73-24842
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p0235 A73-25549
- Visualization of unsteady flow over oscillating airfoils.
p0290 A73-29270
- Parachute gore shape and flow visualization during transient and steady-state conditions. [AIAA PAPER 73-474]
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- Development of flow visualization and flow measurement techniques and application to flow problems of turbines, aircraft engines, and missile propulsion
p0072 N73-12328
- Smoke and helium bubble visualization studies of incompressible flow past jet flap airfoil [AD-752012]
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- Analysis of wakes generated by hovering model propellers and rotors using schlieren photography and hot-wire anemometry [NASA-CR-2305]
p0587 N73-29996
- Hydrogen bubble flow visualization technique for study of aerodynamic problems in water flow facilities [ARL/A-NOTE-338]
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- Finite element analysis and computer graphics visualization of unsteady flow around pitching and plunging airfoils [NASA-CR-2249]
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p0684 N73-11272
- Evaluation of fluid dynamics of aircraft stalling to determine effects of three dimensional flow, wing sweep back, and high lift devices [AGARD-AR-49]
p0201 N73-18023
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- Hybrid fluid film and rolling element bearings for long fatigue life and gas bearings for high temperature operation in gas turbine applications [SAE PAPER 720739]
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- Analysis of coolant flow in transpiration-cooled vanes
 [NASA-TN-D-7341] p0413 N73-25966
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- Effectiveness and heat transfer with full-coverage film cooling.
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- Film effectiveness and heat transfer coefficient downstream of a metered injection slot.
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- An experimental study of strong injection at axisymmetrical bodies of revolution.
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- Vaporization rates of liquid injected into high temperature, supersonic gas flow using aviation gasoline injected by Laval nozzle into air stream
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 NT PNEUMATICS
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 NT ROTOR AERODYNAMICS
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 p0192 A73-23851
- Development and evaluation of three axis fluidic airspeed sensor system for use with standard aircraft power supplies
 [NASA-CR-112167] p0674 N73-10472
- Fluid mechanics facility in aerodynamics laboratory
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 [NASA-TN-X-2876] p0603 N73-30753
- Fluid mechanics of hole tone whistle designed as efficient producer of discrete frequency sound
 p0671 N73-33170
- FLUIDIC CIRCUITS
 Fluidic control modules with temperature sensor and thrust reverser pneumatic actuator for aerospace system applications, investigating reliability test data
 p0372 A73-33477
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 p0372 A73-33478
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 [NASA-CR-114490] p0069 N73-12041
- FLUIDICS
 Problems in constructing aerodynamically active elements - Converters of input and output signals in automatic control systems
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- Development of fluidic control system for stabilizing aircraft ejection seat in pitch plane during rocket motor burn portion of ejection sequence
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- Development of aerodynamic control system to control flutter over large range of oscillatory frequencies using stability augmentation techniques
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- Rates of change of flutter Mach number and flutter frequency.
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- Stability of a thin-wing model with one and two degrees of freedom
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[AIAA PAPER 73-391] p0233 A73-25520
- Eigenvalue problem and stiffness optimization procedure for incremental flutter analysis, describing method use in computer graphics mode
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- An automated procedure for computing flutter eigenvalues.
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[AIAA PAPER 73-394] p0233 A73-25523
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[AIAA PAPER 73-331] p0235 A73-25560
- In-flight flutter testing methods for determining aircraft structure natural frequencies and vibration damping ratios with air flow
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- Linear aerodynamic model incorporating torsional oscillations about two dimensional airfoil midchord for stall flutter description
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- Theoretical investigation on stall flutter of an aerofoil /the case of trailing edge stall/.
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- Semiempirical method for flutter prediction of unsteady lift and aerodynamic forces acting on oscillating airfoil in stall regime, using separation function
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- Effects of certain flight parameters and of certain structural parameters on helicopter main-rotor blade flutter
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- Aircraft flutter analog simulation noting structural nonlinearity effects
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- Occurrence and magnitude of surface effect takeoff and landing aircraft skirt flutter
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- Transonic wind tunnel tests to determine effects on flutter of aerodynamic interference between pairs of closely spaced delta wings
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U MAPPING
- FLUXMETERS**
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- Quad redundant fly by wire servocontrol system design and tests in F-8C high speed jet aircraft, using fail/safe hydraulic actuators
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- Redundant system design and flight test evaluation for the TAGS digital control system.
[AHS PREPRINT 721] p0438 A73-35062
- Tactical aircraft guidance system for CH-47B helicopter utilizing fly by wire control system, describing design, display devices, flight instruments, computer configuration and crew duties
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- Digital fly by wire flight control system with airborne digital processor for increased aircraft survivability, determining redundancy level to satisfy system performance
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- Aerospace multiprocessor for A-7D aircraft digital fly by wire flight control, discussing design requirements, software development and reliability
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[AIAA PAPER 73-846] p0528 A73-38785
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- Design and development of fixed gain control system for longitudinal axis of C-141 aircraft fly-by-wire control
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U FLYING PLATFORMS
- FLYING PERSONNEL**
NT AIRCRAFT PILOTS
NT FLIGHT CREWS
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NT TEST PILOTS
- FLYING PLATFORM STABILITY**
U AERODYNAMIC STABILITY
U FLYING PLATFORMS
- FLYING PLATFORMS**
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[NASA-CR-135482] p0654 N73-32735
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- FOG**
Fog frequency and characteristics at the site of the proposed New York offshore airport, as compared with those at J. F. Kennedy International Airport - A preliminary report.
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- Operative visibility limits over the airports of Milan Linate and Malpensa in the 1960-1969 decade
p0520 A73-38125
- A numerical analysis of some practical aspects of airborne urea seeding for warm fog dispersal at airports.
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- Dissipation of fog using helicopter downwash
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- Two dimensional, time dependent warm fog model by airborne wide area hygroscopic particle seeding
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- Nonflammable antifogging agent with low level, nonobjectionable odor and capable of being dispensed from aerosol container for in-flight visibility
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- Effectiveness of airborne chemical seeding techniques for airport fog dispersal
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- Cost effectiveness analysis of propane operated fog dispersal system and evaluation of runway visual range improvement
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- Requirements, basic principles of operation, design, construction, and maintenance of thermal fog dispersal system for airport applications [FAA-RD-72-138] p0163 N73-16222
- Field test of warm fog dispersal using helicopter downwash and hygroscopic seeding [AD-752046] p0179 N73-17694
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TIME

NT ACCESS TIME

NT DOWNTIME

NT FLIGHT TIME

NT TESTING TIME

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ZERO-ZERO WEATHER

U WEATHER

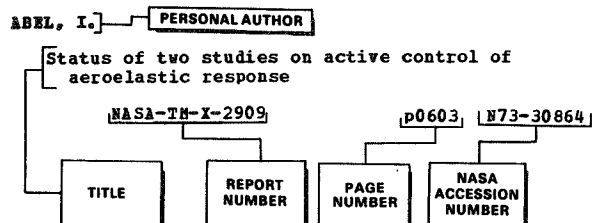
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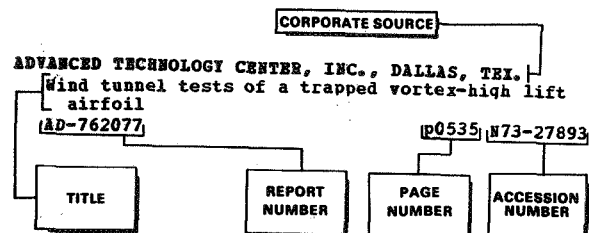
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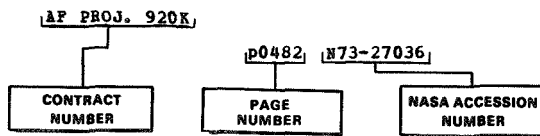
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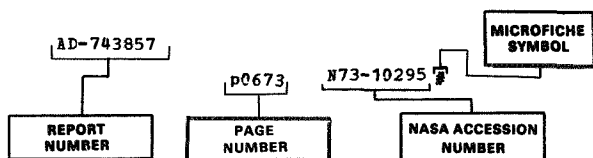
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D6-26058-5	p0138	N73-15692	*	E-7228	p0139	N73-15816	*
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D6-41114	p0178	N73-17592	*	E-7270	p0127	N73-15028	*
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